of the European cave-men of the Neanderthal race, but with an erect skeleton.—A. W. **Hill**: A visit to the Cameroons and Nigeria. The settlement of Victoria and the Botanic Garden there were described. Connected with this garden are the experimental plots of tea and cinchona at Buea, at an altitude of 3300–3600 ft. on the Cameroon Mountain. The Bauchi Plateau, Northern Provinces, was visited, and arrangements were made for collecting specimens of the local flora. More than 600 specimens, comprising a large proportion of new species, have been sent to Kew. The flora of the plateau shows affinities with the flora of Abyssinia and Nyasaland.

PARIS.

Academy of Sciences, November 14.—M. Georges Lemoine in the chair.—P. **Painlevé**: Gravitation in the mechanics of Newton and in the mechanics of Einstein.—M. **Hamy**: A particular case of diffraction of the images of the circular stars and the determination of their diameters.—L. **Fabry**: New formulæ for the calculation of the line of search of a minor planet.—MM. **Gonnessiat** and **Renaux**: An asteroid with an orbit resembling that of a comet. This planet (1920 HZ) was discovered by M. Baade at the Babelsberg Observatory, and he noted its comet-like orbit. Between December 1, 1920, and March 2, 1921, eight positions of this star were obtained with the photographic equatorial of Algiers Observatory, from which the provisional elements have been calculated. The orbit reaches to the distance of Saturn, but the image is clearly that of a planet, and not a comet. Additional observations are desirable before the end of the year, as it will not return for thirteen years.—B. **Déirmendjian**: A new demonstration of a theorem of M. Picard, and some generalisations of this theorem.—J. **Kampé de Fériet**: The general integral of the systems of partial differential equations of hypergeometric functions of higher order.—A. **Lévy**: Recurrent series and the homogeneous forms depending on them.—R. **Gosse**: Two new types of partial differential equations of the second order and of the first class.—J. **Chazy**: The arbitrary functions appearing in the ds^2 of the Einstein gravitation.—R. **Guillery**: Testing machines giving the elastic limit and the modulus of elasticity of metals.—K. **Ogura**: The theory of gravitation in space of two dimensions.—J. **Chappuis** and **Hubert-Desprez**: Researches on stray currents. The stray currents in the soil (of Paris) are produced by insulation defects of the tramway networks (550 volts, continuous current), and cause considerable damage to water and gas mains. Two methods have been worked out for identifying the leaky circuit, one based on the telephone, the other on the lamp with three electrodes. The latter proved to be the better method.—L. **Bouchet**: The variation with time of the pressures created in insulating fluids by a constant electrostatic field. The change with time may be interpreted in several ways, the most probable being the assumption that there is a change in the conductivity of the liquid. The effects observed with alternating currents were applied to calculate the specific inductive capacities of the six hydrocarbons used in the experiments.—P. **Lemay** and L. **Jaloustre**: The oxidising properties of certain radio-active elements. The experiments were made with the bromides of mesothorium, radiothorium, thorium-X, and radium. If solutions of these salts, enclosed in bulbs, are placed in the oxidisable solutions, there is no action, but when intimately mixed, oxidation phenomena were observed with hydroquinone, tincture of guaiacum, ferrous salts, and acid solutions of iodides.—P. **Glangeaud**: The Plomb du Cantal, a large independent volcano, covering nearly a third of the Cantal massif. This region has hitherto been considered as representing a sector of the great Cantalian volcano with a single crater. The author's observations lead to the conclusion that the Plomb du Cantal is an independent volcano, the principal eruptive centre of which was asymmetric with respect to its lava streams.—P. **Loisel**: The radio-activity of the springs of the region of Bagnoles-de-l'Orne. The eight springs examined all proved to be radio-active, but in different degrees. In four of them, all coming from granite, the radio-activity was permanent. The variations are discussed from the point of view of a double origin of the water from the spring.—Ed. **Le Danois**: The variations of the Atlantic waters off the French coasts.—J. **Eriksson**: New biological studies on the rust of mallow, *Puccinia Malvacearum*.—J. **Ripert**: The biology of the belladonna alkaloids.—P. **Freundler**, and Mlles. Y. **Menager** and Y. **Laurent**: Iodine in the Laminaria. There is a loss of iodine, which may amount to 50 per cent. of the amount originally present, when the algæ are dried. The percentage of iodine is almost independent of the place of growth, but varies with the time of year.—A. **Němec** and F. **Duchoň**: The possibility of determining the value of seeds by the biochemical method. An attempt to find a relation between the different enzymes present in the seed and the power of germination. The hydrolysing diastases can persist after the seed has lost its germinating power. But catalase behaves differently, and the activity of the catalase may serve to evaluate in a few minutes the agricultural value of the seeds.—G. **Hinard** and R. **Fillon**: The chemical composition of the starfish. Dried starfish contain about 50 per cent. of calcium carbonate, 35 per cent. of albumenoids, and 7 per cent. of fat, and serve well for manure. The fat has been extracted, and some of its chemical and physical constants are given.—R. **Bayeux**: The subcutaneous absorption of oxygen in mountain climbing or ascent by aeroplane.—A. **Tournay**: The influence of the sympathetic nerve on the sensibility: the effects of the resection of the sympathetic on the residual sensibility of a member the nerves of which have been almost completely severed.—A. **Labbé**: Heterogeneous impregnation.—P. **de Beauchamp**: Biogeographical researches on the tidal zone at the island of Yeu.—R. **Poisson**: Brachypterism and apterism in the genus Gerris.—M. **Aynaud**: Contagious pustulous stomatitis in sheep and goats.—G. B. **de Toni**: Material for the reconstruction of the manuscript A of Leonardo da Vinci in the library of the Institute.

BRUSSELS.

Royal Academy of Belgium, November 5.—M. G. Cesàro in the chair.—C. **Servais**: The geometry of the tetrahedron.—L. **Godeaux**: A rational involution with three points of coincidence belonging to an algebraic surface of the third species.

Books Received.

Wages and the Cost of Living. By Dr. C. V. Drysdale. Pp. 51. (London: Malthusian League.) *6d.*

The Malthusian Doctrine and its Modern Aspects. By Dr. C. V. Drysdale. Pp. 68. (London: Malthusian League.)

Problems made Easy for Preparatory Schools and the Lower Forms in Public Schools. By R. Tootell Pp. 75. (Winchester: Warren and Son, Ltd.) 3*s*. net.

Alternating Currents. By G. C. Lamb. Part 1. Pp. viii+73. Part 2. Pp. viii+127. (Cambridge:

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At the University Press.) Part 1, 5*s.* 6*d.* net; part 2, 7*s.* 6*d.* net.

Market Nursery Work: A Series of Six Books on the Cultivation of Crops for Market. By F. J. Fletcher. Vol. 1: Glasshouses and the Propagation of Plants. Pp. viii+75. Vol. 2: Special Glasshouse Crops. Pp. vi+72. (London: Benn Bros., Ltd.) 4*s.* 6*d.* each.

Penrose's Annual. Vol. 24 of the Process Year Book and Review of the Graphic Arts, 1922. Edited by W. Gamble. Pp. xii+91+plates. (London: Percy Lund, Humphries and Co., Ltd.) 8*s.* net.

Ocean Research and the Great Fisheries. By G. C. L. Howell. Pp. 220+20 plates+3 maps. (Oxford: Clarendon Press.) 18*s.* net.

Letters to My Grandson on the World About Him. By the Hon. Stephen Coleridge. Pp. 124. (London: Mills and Boon, Ltd.) 4*s.* net.

The Handicraft Art of Weaving. By T. Woodhouse. (Oxford Technical Manuals.) Pp. xii+165. (London: Henry Frowde and Hodder and Stoughton.) 6*s.* net.

A Text-book of Inorganic Chemistry. By Prof. A. F. Holleman. Sixth English edition, revised. (Issued in English in co-operation with H. C. Cooper.) Pp. viii+528. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 19*s.* net.

Elementary Chemical Microscopy. By Prof. E. M. Chamot. Second edition, partly re-written and enlarged. Pp. xvi+479. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 25*s.* net.

The Emission of Electricity from Hot Bodies. By Prof. O. W. Richardson. (Monographs on Physics.) Second edition. Pp. viii+320. (London: Longmans, Green and Co.) 16*s.* net.

Ministry of Munitions and Department of Scientific and Industrial Research. Technical Records of Explosives Supply, 1915–1918. No. 4: The Theory and Practice of Acid Mixing. Pp. vi+93. (London: H.M. Stationery Office.) 12*s.* net.

The Psychology of Medicine. By Dr. T. W. Mitchell. Pp. viii+187. (London: Methuen and Co., Ltd.) 6*s.* net.

Annual Report of the Meteorological Committee to the Air Council for the Year ended 31st March, 1921. Pp. 72. (London: H.M. Stationery Office.) 2*s.* net.

The Historical Geography of the Wealden Iron Industry. By M. C. Delany. (Historico-Geographical Monographs.) Pp. 62+3 maps. (London: Benn Bros., Ltd.) 4*s.* 6*d.* net.

La Matière et l'Energie: Selon la Théorie de la Relativité et la Théorie des Quanta. By Prof. L. Rougier. Nouvelle edition. Pp. xii+112. (Paris: Gauthier-Villars et Cie.) 9.50 francs.

The Manufacture and Uses of Explosives, with Notes on their Characteristics and Testing. By Dr. R. C. Farmer. (Technical Primer Series.) Pp. xii+116. (London: Sir I. Pitman and Sons, Ltd.) 2*s.* 6*d.* net.

Dictionary of Botanical Equivalents. French-English: German-English. By Dr. E. Artschwager and E. M. Smiley. Pp. 137. (Baltimore, Md.: Williams and Wilkins Co.) 2 dollars.

Vorlesungen über Thermodynamik. By Prof. Dr. Max Planck. Sechste auflage. Pp. x+292. (Berlin and Leipzig: W. De Gruyter and Co.) 1.28 shillings.

Meddelelser fra Kommissionen for Havundersøgelser. Serie Fiskeri. Bind 6, Nr. 2, 1921: Danish Investigations of Plaice from the North Sea, July, 1919–July, 1920. By Dr. K. Smith. Pp. 68. (København: C. A. Reitzel.)

Diary of Societies.

THURSDAY, DECEMBER 1.

LINNEAN SOCIETY OF LONDON, at 5.—Prof. W. N. Jones: Note on the Occurrence of Brachiomonas.—J. Burtt-Davy: The Distribution of Salix in South Africa.—Miller Christy: The Problem of the Pollination of the British Primulas.

ROYAL AERONAUTICAL SOCIETY (at Royal Society of Arts), at 5.30.—Major C. H. Scott: The Present State of Airship Development.

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—L. J. Steele and H. Martin: The Cyc-arc Process of Automatic Electric Welding.

ROYAL MICROSCOPICAL SOCIETY (Metallurgical Section), at 7.30.—The Practical Application of Vertical Illuminators in the Determination of the Structure of Metals and Alloys and in Metallographical Research Generally. Exhibition of Various Types of Vertical Illuminators by C. W. Hawksley and P. Swift.

CHEMICAL SOCIETY, at 8.—R. Mond and A. Wallis: Some Researches on the Metallic Carbonyls.—R. Mond and A. Wallis: The Action of Nitric Oxide on the Metallic Carbonyls.

ROYAL SOCIETY OF MEDICINE (Obstetrics and Gynæcology Section), at 8.—R. H. Paramore: Eclampsia and its Incidence.

CAMERA CLUB (at 17 John Street, W.C.2), at 8.15.—Madame Yevonde: Women in Photography.

FRIDAY, DECEMBER 2.

ROYAL SOCIETY OF MEDICINE (Laryngology Section), at 4.45.

ROYAL ASTRONOMICAL SOCIETY, at 5.—Geophysical Discussion: Certain Geological Consequences of the Cooling of the Earth. Opened by Dr. H. Jeffreys, continued by Dr. Jeans, Prof. Lindemann, Dr. Evans, and Col. Grove-Hills. Chairman, Sir Jethro Teall.

INSTITUTION OF ELECTRICAL ENGINEERS (Students Section), at 7.—H. S. Petch: Automatic and Semi-automatic Railway Signalling.

JUNIOR INSTITUTION OF ENGINEERS (at Caxton Hall), at 8.—B. L. Ladkin: Notes on Maintenance of Electrical Accumulators.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 8.—M. O. Dell: Ideals and Methods in Picture Making.

ROYAL SOCIETY OF MEDICINE (Anæsthetics Section), at 8.30.—Informal Meeting.

SATURDAY, DECEMBER 3.

GILBERT WHITE FELLOWSHIP (at 6 Queen Square, W.C.1), at 3.—Prof. G. S. Boulger: The Sundews: Their Kindred and Neighbours.

MONDAY, DECEMBER 5.

ROYAL BOTANIC SOCIETY OF LONDON, at 3.—Prof. A. W. Bickerton: Gardening (1).

VICTORIA INSTITUTE (at 1 Central Buildings, S.W.1), at 4.30.—Rev. A. C. Robinson: Darius the Median and the Cyropædia of Xenophon in the Light of the Cuneiform Inscriptions.

ROYAL INSTITUTION OF GREAT BRITAIN, at 5.—General Meeting.

SOCIETY OF ENGINEERS (at Geological Society), at 5.30.—W. M. Beckett: Northwich Sewerage and Sewage Disposal Works.

INSTITUTION OF ELECTRICAL ENGINEERS (Informal Meeting), at 7.—C. L. Lipman and others: Discussion on Some Recent Developments in the Design of A.C. Instruments.

ARISTOTELIAN SOCIETY (at 21 Gower Street, W.C.1), at 8.—Prof. J. Johnstone: The Limitations of Knowledge.

ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.—Business Meeting.

ROYAL SOCIETY OF ARTS, at 8.—A. M. Hind: Processes of Engraving and Etching (Cantor Lecture) (2).

SOCIETY OF CHEMICAL INDUSTRY (at Chemical Society), at 8.—W. L. Baillie: An Autoclave Test for the Grading of Chemical Glassware.—Dr. E. Fyleman: Separation of Adherent Oil or Bitumen from Rock.

ROYAL GEOGRAPHICAL SOCIETY (at Æolian Hall), at 8.30.—G. M. Gathorne-Hardy: A Recent Journey in Northern Labrador.

ROYAL SOCIETY OF MEDICINE (Tropical Diseases and Parasitology Section), at 8.30.—Dr. Broughton-Alcock, Prof. W. Yorke, and Dr. P. Manson-Bahr: Discussion: Amœbic Dysentery in Great Britain: its Significance and Treatment.—Dr. M. Khalil: Thermotropism in Ankylostome Larvæ.

TUESDAY, DECEMBER 6.

ROYAL SOCIETY OF ARTS (Dominions and Colonies Section), at 4.30.—F. C. Wade: British Columbia: The Awakening of the Pacific.

ROYAL SOCIETY OF MEDICINE (Surgery: Sub-Section of Orthopædics), at 5.30.—N. Dunn and others: Discussion: Stabilising Operations in the Treatment of Paralytic Deformities of the Foot.

WOMEN'S ENGINEERING SOCIETY (at 26 George Street, W.1), at 6.15.—T. Clarkson: The Use of Home-produced Fuels for Commercial Motor Transport.

INSTITUTE OF MARINE ENGINEERS (at 85 The Minories), at 6.30.—Sir D. Wilson-Barker: Weather at Sea, including Clouds, Waves, etc.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—H. M. Edmonds: A New Mode of Producing Sculptures by the Aid of Photography.

RÖNTGEN SOCIETY (at Institution of Electrical Engineers), at 8.15.—M. A. Codd: Some Investigations on Transformer-Rectifier Sets for X-rays.—C. E. S. Phillips: X-ray Tubes Connected in Parallel.

ROYAL SOCIETY OF MEDICINE (Pathology Section) (at Lister Institute), at 8.30.—Dr. V. Korencheusky: Experimental Rickets in Rats, with Demonstration of Specimens.—Dr. G. Ségal: The Association of Typhus Virus with the Various Blood Elements.—A. W. Bacot: Demonstrations of Rectal Infection of Lice by Weigl's Method.—A. W. Bacot and Dr. G. Ségal: The Development of Rickettsia in Lice, following Intrarectal Infection with Typhus Virus.—Dr. R. St. John Brooks and Dr. M. Rhodes: Some Observations on the Hæmorrhagic Septicæmia Group.—Miss E. H. Lepper: Gall-bladder Infections following the Intravenous Inoculation of Coliform Organisms in Rabbits.—Dr. S. P. Bedson:

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